

OIEP

RAW SEQUENCE LISTING

DATE: 07/11/2001

PATENT APPLICATION: US/09/737,297

TIME: 11:32:29

Input Set : A:\09-213046 Sequence Listing.txt

Output Set: N:\CRF3\07112001\I737297.raw

ENTERED

5 <110> APPLICANT: Berry, Mark
 7 Griffiths, Allen
 9 Hill, Philip
 11 Laybourne-Parry, Johanna
 13 Mills, Sarah
 17 <120> TITLE OF INVENTION: Processes and Organisms for the Production of Antifreeze Proteins
 21 <130> FILE REFERENCE: F3247
 25 <140> CURRENT APPLICATION NUMBER: US 09/737,297
 27 <141> CURRENT FILING DATE: 2000-12-15
 31 <150> PRIOR APPLICATION NUMBER: GB 9929696.4
 33 <151> PRIOR FILING DATE: 1999-12-15
 37 <160> NUMBER OF SEQ ID NOS: 5
 41 <170> SOFTWARE: PatentIn version 3.0
 45 <210> SEQ ID NO: 1
 47 <211> LENGTH: 1486
 49 <212> TYPE: DNA
 51 <213> ORGANISM: Marinomonas protea
 55 <400> SEQUENCE: 1
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 60 agaggggggac aacatgtgga aacgcagctg aataccgcat acgccctgag ggggaaagga 180
 62 ggggactctt cggagccttc cgctattaga tgagcctgcg tgagattagc tagttggtag 240
 64 ggtaaaggcc taccaaggcg acgatctcta actggctctga gaggatgacc agtcacactg 300
 66 ggactgagac acggcccaga ctctacggg aggcagcagt ggggaatatt ggacaatggg 360
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 70 tcaggggtga ggaagggtga taggttaata cgttatcatc ttgacgttag ccccaagaaga 480
 72 agcaccggct aactctgtgc cagcagccgc ggtaatacag aggggtgcaag cggttaatcgg 540
 74 aattactggg cgtaaaagcgc gcgtaggtgg tttgttaagt cggatgtgaa atcccagggc 600
 76 tcaaccttgg aatggcaccg gatactggct agctagagta tggtagaggg gtgtggaatt 660
 78 tctgtgttag cggtgaaaatg cgtagatata ggaaggaaca tcagtggcga aggcgacacc 720
 80 ctggactaat actgacactg aggtgcgaaa gcgtggggag caaacaggat tagataccct 780
 82 ggtagtccac gccgtaaacc atgtctacta gccgttgggt tgtaatgact tagtgccgca 840
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 86 tgacgggggc ccgcacaagc ggtggagcat gtggtttaat tcgaagcaac gcgaagaacc 960
 88 ttacctactc ttgacatcca cagaacattt gagagatcag atggtgcctt cgggaactgt 1020
 90 gagacagggt ctgcatggct gtcgtcagct cgtgttgtga aatgttgggt taagtcccgt 1080
 92 aacgagcgca accettgtcc ttatttgcca gcacgtaatg gtgggaactt taaggagact 1140
 94 gccggtgaca aaccggagga aggtggggac gacgtcaagt catcatggcc cttacgagta 1200
 96 gggctacaca cgtgctacaa tggcgtatac agagggctgc aagctagcga tagtgagcga 1260
 98 atcccacaaa gtacgtcgta gtccggattg gagtctgcaa ctcgactcca tgaagtcgga 1320
 100 atcgctagta atcgatgaatc agaatgtcac ggtgaatacg ttcccgggccc ttgtacacac 1380
 102 cgcccgtcac accatgggag ttgattgctc cagaagtagc tagcttaacc cttcggggat 1440
 104 ggcggttacc acggagtggg caatgactgg ggttgaagtc tacgcg 1486
 107 <210> SEQ ID NO: 2
 109 <211> LENGTH: 1070
 111 <212> TYPE: DNA
 113 <213> ORGANISM: Pseudomonas (NCIMB 41076)

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117 <400> SEQUENCE: 2

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118 gcccttgctc agattgaacg ctggcggcag gcctaacaca tgcaagtcga gcggtagaga      60
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122 gtgggggata acgttcggaa acggacgcta ataccgcata cgtcctacgg gagaaagcag      180
124 gggaccttcg ggccttgccg tatcagatga gcctaggtcg gattagctag ttggtgaggt      240
126 aatggctcac caaggcgacg atccgtaact ggtctgagag gatgatcagt cacactggaa      300
128 ctgagacacg gtccagactc ctacgggagg cagcagtggg gaataattgga caatgggcga      360
130 aagcctgata cagccatgcc gcgtgtgtga agaaggtctt cggattgtaa agcactttaa      420
132 gttgggagga agggttgtag attaatactc tgcaattttg acgttaccga cagaataaagc      480
134 accggctaac tctgtgccag cagccgcggt aatacagagg gtgcaagcgt taatcggaat      540
136 tactgggcgt aaagcgcgcg taggtggttt gttaagttgg atgtgaaatc cccgggctca      600
138 acctgggaac tgcattcaaa actgactgac tagagtatgg tagagggtgg tggaatttcc      660
140 tgtgtagcgg tgaatgcgt agatatagga aggaacacca gtggcgaagg cgaccacctg      720
142 gactaatact gacactgagg tgcgaaagcg tggggagcaa acaggattag ataccctggt      780
144 agtccacgcc gtaaacgatg tcaactagcc gttggaagcc ttgagctttt agtggcgcag      840
146 ctaacgcatt aagttgaccg cctggggagt acggccgcaa gggtaaaact caaatgaatt      900
148 gacggggggc cgcacaagcg gtggagcatg tggtttaatt cgaagcaacg cgaagaacct      960
150 taccaggcct tgacatccaa tgaactttct agagatagat tgggtgccttc gggaacattg     1020
152 agacagggtg tgcattggctg tcgtcagctc gtgttggtgaa atgtaagggc      1070

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157 <211> LENGTH: 16

159 <212> TYPE: PRT

161 <213> ORGANISM: *Marinomonas protea*

165 <220> FEATURE:

167 <221> NAME/KEY: VARIANT

169 <222> LOCATION: (6)..(6)

171 <223> OTHER INFORMATION: residue 6 is G or V

175 <400> SEQUENCE: 3

177 Ala Glu Gly Ser Thr Xaa Asp Val Tyr Gln Asn Ile Gln Tyr Ala Gly

178 1 5 10 15

180 <210> SEQ ID NO: 4

182 <211> LENGTH: 1481

184 <212> TYPE: DNA

186 <213> ORGANISM: *Marinomonas communis*

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192 <221> NAME/KEY: Unsure

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196 <223> OTHER INFORMATION: base identity unsure

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202 <221> NAME/KEY: Unsure

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254 <222> LOCATION: (1185)..(1186)
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262 <221> NAME/KEY: Unsure
264 <222> LOCATION: (1449)..(1449)
266 <223> OTHER INFORMATION: base identity unsure
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273 agtcgagcgg taacattgct agcttgctag aagatgacga gcggcggacg ggtgagtaac 120
275 gcgtaggaat ctgcctagta gtgggggaca acatgtggaa acgcatgcta ataccgcata 180
W--> 277 cgccctacgg gggaaaggag ggnntcttcg gacctttcgc tattagatga gcctgcgtga 240
279 gattagctag ttggtggggt aaaggcctac caaggcgacg atctctagct ggtctgagag 300
281 gatgatcagc cacactggga ctgagacacg gccagactc ctacgggagg cagcagtggg 360
283 gaatattgga caatggggcg aagcctgatc cagccatgcc gcgtgtgtga agaaggcctt 420
285 agggttgtaa agcactttca ggagtgaaga agggcgtata gttaataacct gtatgtttt 480
287 acgttaactc cagaagaagc accggctaac tctgtgccag gaccgcgggt aatacagagg 540
289 gtgcgagcgt taatcggaat tactgggcgt aaagcgcgcg taggcgggtt gttaagtcgg 600
291 atgtgaaatc ccagggtcga accttggaat ggcacccgat actggcaggc tagagtacgg 660
293 tagaggggtg tggaatttcc tgtgtagcgg tgaatgcgt agatatagga aggaacatca 720
295 gtggcgaagg cgacaccctg gaccgatact gacgctgagg tgcgaaagcg tggggagcaa 780
W--> 297 acaggattag ataccctggg agtccacgcc gtaaacgatg tctactagcc gttggggatn 840
299 tatttcttta gtggcgagc taacgcgata agtagaccgc ctggggagta cggccgcaag 900
301 gttaaaactc aaatgaattg acggggggcc gcacaagcgg tggagcatgt ggtttaattc 960
W--> 303 gaannaacgc gaagaacctt acctactctt gacatccaga gaacttityca gagatgaatt 1020
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307 tgttggttta agtcccgtaa cgagcgcaac ccttatcctt atttggcagc acttcgggtg 1140
W--> 309 gnaactctaa ggagactgcc ggtgacaaaac cggaggaagg tnggnncgac gtcaagtcac 1200
311 catggccctt acgagtaggg ctacacacgt gctacaatgg cgtatacaga gggcagcgaa 1260
313 ctgcgaggg taagcaaadc ccaaaaaagta cgtcgtagtc cggattggag tctgcaactc 1320
315 gactccatga agtcggaatc gctagtaatc gtgaatcaga atgtcacggt gaatacgttc 1380
317 ccgggccttg tacacaccgc ccgtcacacc atgggagttg attgctccag aagtagctag 1440
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326 <212> TYPE: DNA
328 <213> ORGANISM: Pseudomonas synxantha
332 <400> SEQUENCE: 5
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335	ggtagagaga	agcttgcttc	tcttgagagc	ggcggacggg	tgagtaatgc	ctaggaatct	120
337	gcctggtagt	gggggataac	gttcggaaac	ggacgctaata	accgcatacg	tcctacggga	180
339	gaaagcaggg	gaccttcggg	ccttgcgcta	tcagatgagc	ctaggctcgga	ttagctagtt	240
341	ggtgaggtaa	tggctcacca	aggcgacgat	ccgtaactgg	tctgagagga	tgatcagtca	300
343	cactggaact	gagacacggt	ccagactcct	acgggaggga	gcagtgggga	atattggaca	360
345	atgggcgaaa	gcctgatcca	gccatgccgc	gtgtgtgaag	aaggctcttcg	gattgtaaaag	420
347	cactttaagt	tgggaggaag	ggttgtagat	taatactctg	caattttgac	gttaccgaca	480
349	gaataagcac	cggctaactc	tgtgccagca	gccgcggtaa	tacagagggg	gcaagcggtta	540
351	atcggaatta	ctgggcgtaa	agcgcgcgta	ggtggtttgt	taagttggat	gtgaaatccc	600
353	cgggctcaac	ctgggaactg	cattcaaaac	tgactgacta	gagtatggta	gaggggtggtg	660
355	gaatttcctg	tgtagcgggtg	aaatgcgtag	atataggaag	gaacaccagt	ggcgaaggcg	720
357	accacctgga	ctaatactga	cactgaggtg	cgaagcggtg	gggagcaaac	aggattagat	780
359	accctggtag	tccacgccgt	aaacgatgtc	aactagccgt	tggaagcctt	gagcttttag	840
361	tggcgcagct	aacgcattaa	gttgaccgcc	tggggagtac	ggccgcaagg	ttaaaactca	900
363	aatgaattga	cgggggccc	cacaagcgg	ggagcatgtg	gtttaattcg	aagcaacgcg	960
365	aagaacctta	ccaggccttg	acatccaatg	aactttctag	agatagattg	gtgccttcgg	1020
367	gaacattgag	acagggtgctg	catggctgtc	gtcagctcgt	gtcgtgagat	gttgggttaa	1080
369	gtcccgtaac	gagcgcaacc	cttgtcctta	gttaccagca	cgtaatggtg	ggcactctaa	1140

VERIFICATION SUMMARY

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Input Set : A:\09-213046 Sequence Listing.txt

Output Set: N:\CRF3\07112001\I737297.raw

L:177 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:271 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:277 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:303 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:309 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:319 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4